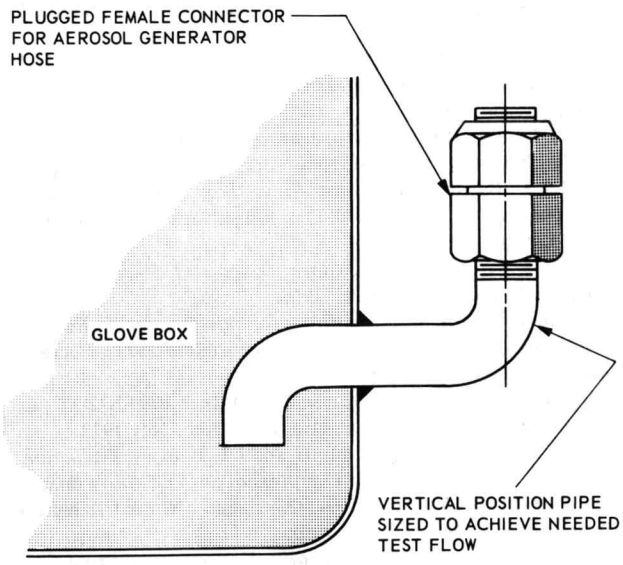

Figure 7.22 – Connection for introducing DOP into glove box

7.5.5 GLOVE-BOX SHIELDING

Some gloveboxes may require gamma, beta, and neutron shielding because of the nuclides used and the amounts of material involved. Boxes handling kilogram quantities of plutonium can be shielded by providing lead-impregnated gloves, glovebox shielding (water or any other similar mass), lead glass over the windows, and lead-hinged plugs or covers over the ports.[27] The operating, shielding, removal, and replacement requirements of the glovebox HEPA filter must also be considered when glovebox shielding is required. The thickness of the shielding affects the design of the filter housing used on this type of glovebox. The designer should account for this by extending the service fittings (pressure measurement) and any other glovebox pass-through used in the design. This practice is also mandated for bagging ports used to remove the primary HEPA filters and the cover doors. Ergonomic operations inside shielded gloveboxes should be given careful consideration because lead-lined gloves and dimensional differences make manipulations very difficult.

7.6 REFERENCES

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